

XXVII.—*Observations on the Common Toad, and on its long Abstinence from Food.* By JOHN BROWN, Esq.

IN repeating an experiment on the Common Toad as to its long abstinence from food when deprived of a free circulation of air, which was made three years ago (see vol. iii. p. 518, 'Mag. Nat. Hist.' N. S.), it will there be seen that the animal in that instance died three days after it was restored to light and air, from its being, as was supposed at the time, most injudiciously exposed to the sun during that time in a southern aspect for the purpose of its being seen by any one who from motives of curiosity might wish to do so.

After the death of this toad, the trial being thought not quite perfect, another was selected and placed in the same grave out of which the former one was taken, and after remaining in that situation for three years to the very day upon a bed of dry flinty gravel, and with full three feet in depth of gravel over it, and without any apparent means of obtaining food, the toad was removed from its dormitory alive, but its body and limbs were discovered to be wasted and shrunk in some measure. This removal took place on Friday the 2nd of the present month (September). It was then put into a hole made in the ground about six inches deep and shaded from the sun; in this state it lived seven days, but it died on the eighth day after it was taken out of the ground.

At the same time that the animal now under notice was buried alive, four other toads were put alive also under two flower-pots; two animals under each pot, with its mouth downwards, as in the former instance, to prevent the pressure of earth from crushing them.

These were also buried three feet below the surface, in a corner of a field in a dry soil. Here we met with a very different result; for after removing the earth and turning up the flower-pots, not a vestige could be seen of any part of the four animals that were put under them three years before; and although search was made, not in a careless manner, for any part of the bones, skin, &c., not a trace of any of them could be seen; every fragment of their skeletons had disappeared; and after searching the earth over which the pots covering the toads had been whelmed very cautiously, all that could be found in the soil belonging to the animal kingdom were the antennæ, legs, and the elytra of beetles.

The only solution of the difficulty that then presented itself as to the cause of removal of the carcasses of the toads, was that the larvæ of the beetles in question, or the insects in a more perfect state of existence, had effected their removal by devouring them.

This is a question affecting entomology, and very probably among the numerous readers of this work, or the more scientific contributors to it, we may be favoured in a future number with a better solution of the matter in question than the foregoing.

The animals under notice in both experiments, when first taken out of the ground, were quite exposed to the open air; in the first instance the toad was very improperly placed in the sun for the space of three days in a southern aspect, as was before observed, a situation never chosen by these reptiles during the warm season.

In future experiments of this kind, perhaps if atmospheric air were to be admitted to the animals under the above circumstances in small quantities, and gradually, instead of sudden exposure to that element, we might then probably have a different result from those we have hitherto experienced; or after such long confinement as three years, letting them have access to their native element, water, for a time, this might be a means of recovering the animals and prolonging their existence; but this can only be ascertained by future research.

Since writing the above I have perused an interesting article in vol. vi. p. 459. in the 'Mag. Nat. Hist.,' which is pertinent to the remark of letting the animals have access to water when taken out of the ground after long periods of imprisonment. It is there stated that a toad was discovered "in a solid piece of ironstone, which on exposure to air exhibited symptoms of animation, and being put into water lived about three weeks, growing to nearly double its size when first released from its confined cell, which was just large enough to contain its body."

It appears by the account above quoted, that this discovery was made by some miners at the Rough Hills colliery in Shropshire. Vide *Shrewsbury Chronicle* for December 21st, 1823.

Stanway, Sept. 13, 1842.

XXVIII.—*On the varieties of Dryas octopetala*. By CHARLES C. BABINGTON, M.A., F.L.S., F.G.S., &c.*

[With a Plate.]

It is now several years since my attention was drawn to certain differences which exist in the specimens of *Dryas octopetala* obtained from two Irish stations and those found in England and Scotland, and I have at length determined to

* Read to the Botanical Society at Edinburgh, Feb. 10, 1842.